

## 50A Automotive Rectifiers

### Features

- Low leakage
- Low forward voltage drop
- High current capability
- High forward surge current capacity
- RoHS Compliance



ARS



### Mechanical Data

<b>Case:</b>	ARS, molded plastic body
<b>Epoxy:</b>	Plastic package has UL flammability classification 94V-0
<b>Terminals:</b>	Plated slug, solderable per MIL-STD-202, Method 208C
<b>Polarity:</b>	Color ring denotes cathode end
<b>Weight:</b>	0.064 ounces, 1.82 grams

### Maximum Ratings and Electrical Characteristics ( $T_A=25^{\circ}\text{C}$ unless noted otherwise)

Symbol	Description	ARS501	ARS502	ARS503	ARS504	ARS506	Unit	Conditions
<b>V<sub>RRM</sub></b>	Maximum Repetitive Peak Reverse Voltage	100	200	300	400	600	V	
<b>V<sub>RMS</sub></b>	Maximum RMS Voltage	70	140	210	280	420	V	
<b>V<sub>DC</sub></b>	Maximum DC Blocking Voltage	100	200	300	400	600	V	
<b>I<sub>F(AV)</sub></b>	Maximum Average Forward Rectified Current	50					A	T <sub>C</sub> =110° C
<b>I<sub>FSM</sub></b>	Peak Forward Surge Current	600					A	8.3ms single half sine-wave superimposed on rated load (JEDEC Method)
<b>V<sub>F</sub></b>	Forward Voltage	1.08					V	I <sub>F</sub> =80A
<b>I<sub>R</sub></b>	Maximum DC Reverse Current at Rated DC Blocking Voltage	5.0					μA	T <sub>A</sub> =25° C
		400						T <sub>A</sub> =100° C

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## ARS501 - ARS506

Symbol	Description	ARS501	ARS502	ARS503	ARS504	ARS506	Unit	Conditions
$R_{thJC}$	Typical Thermal Resistance	0.8					$^{\circ}C / W$	
$T_J$ , $T_{STG}$	Operating Junction and Storage Temperature Range	-65 to +175					$^{\circ}C$	

- Note:** (1) Enough heatsink must be considered in application.  
 (2) Single phase, half wave, 60Hz, resistive or inductive load.  
 (3) For capacitive load derate current by 20%.

### Typical Characteristics Curves

Fig.1-Typical Forward Current Derating Curve

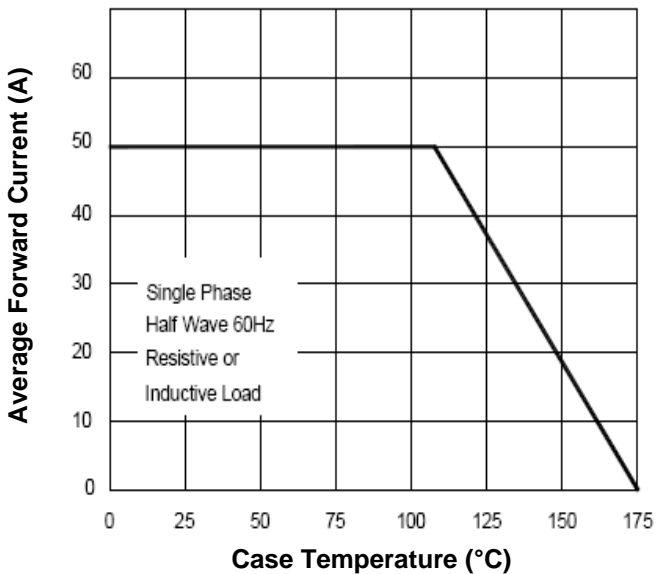
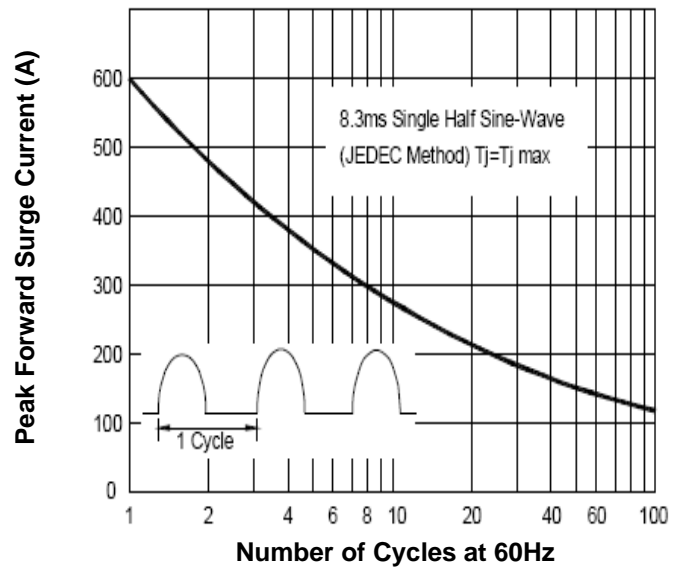


Fig.2-Max. Non-Repetitive Peak Forward Surge Current



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## ARS501 - ARS506

Fig.3- Typical Instantaneous Forward Characteristics

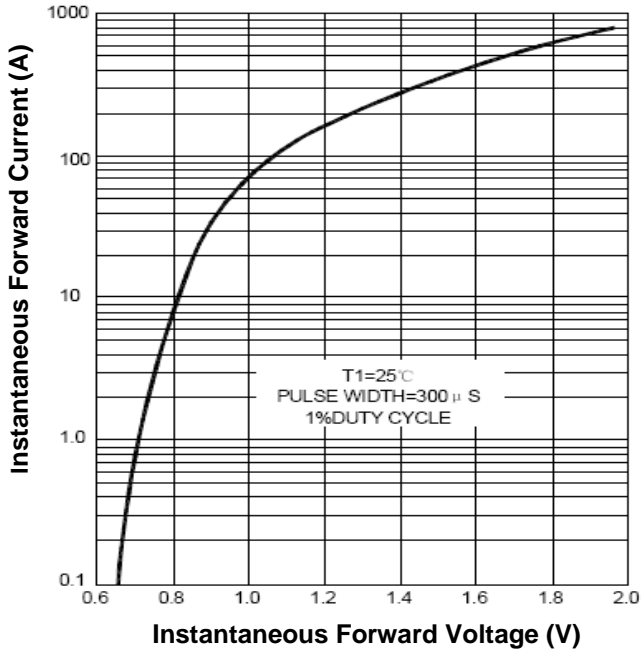
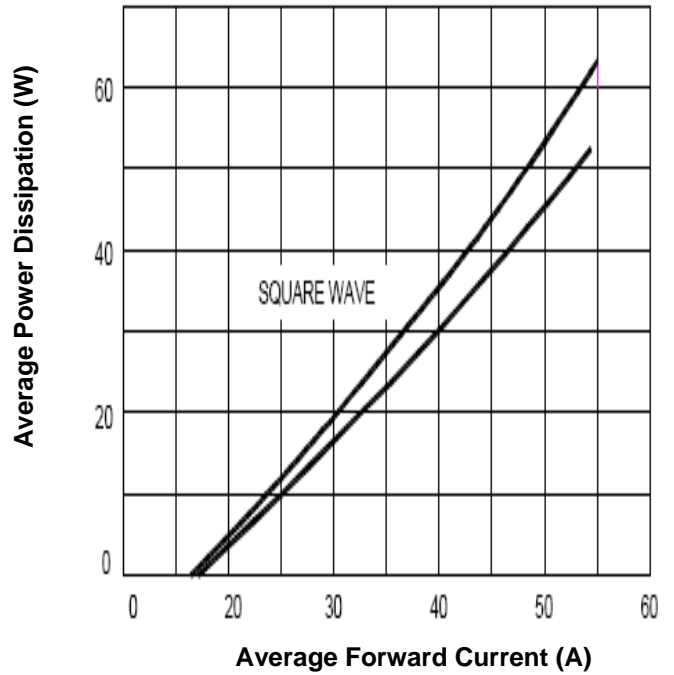
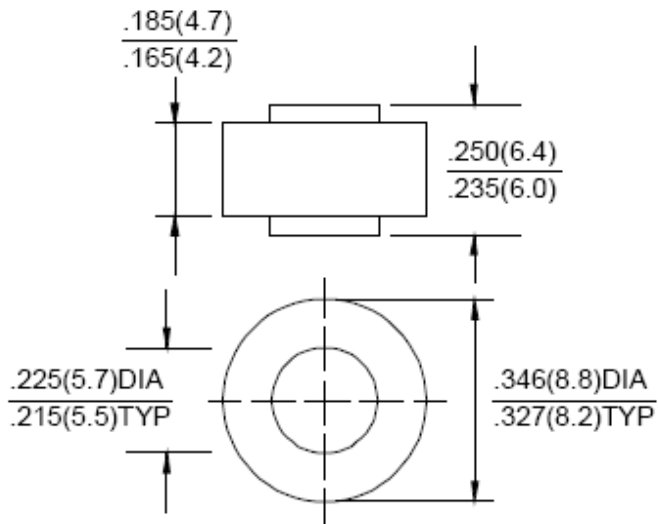


Fig.4-Forward Power Dissipation



### Dimensions in inch (mm)



ARS

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### ARS501 - ARS506

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